Record size of *Salmo dentex* (Heckel, 1851) (Salmonidae) from Neretva River (Bosnia and Herzegovina)

by

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RÉSUMÉ. - Nouvelle taille maximale pour l'espèce *Salmo dentex* (Salmonidae).

Un spécimen de *Salmo dentex* (Heckel, 1851), a été capturé le 25 février 2008 à proximité de Čapljina (rivière Neretva, Bosnie-Herzégovine). Sa longueur totale, 984 mm, représente la longueur maximale enregistrée pour cette espèce. Son poids total frais était de 11,22 kg.

Key words. - Salmonidae - *Salmo dentex* - Bosnia and Herzegovina - Neretva River - Maximum size.

Salmo dentex (Heckel, 1851) is still a relatively unknown, rare endemic species of Adriatic drainage system whose taxonomic position, phylogenetic relationship and distribution has not yet been firmly established (Glamuzina, 2008; Snoj *et al*., 2008). Historically, it has been observed in the main rivers of the Adriatic drainage system; restricted in the area between the Krka River in Croatia to Aoos drainages, with a possible presence in Alfios (Greece) (Kottelat and Freyhof, 2007). However, while Mrakovčić *et al*. (2006) reported extinction in the Croatian rivers Cetina and Krka, it seems, according to recent genetic investigations in Montenegro, that *Salmo dentex* is a population of *Salmo trutta* with a specific migration instinct (Mrdak *et al*., 2006). Although *S. dentex* forms a genetically independent lineage, the shared haplotype with two other Neretvan salmonids (*Salmo farioides* Karaman, 1938 and *Salmo marmoratus* Cuvier, 1829) indicates a relatively recent origin of *S. dentex*, suggesting its sympatric speciation is associated with a specific ecological niche in the Hutovo blato wetlands (Snoj *et al*., 2008).

Published data regarding *Salmo dentex* (Heckel, 1851) in Bosnia and Herzegovina are scarce and limited to the original morphological description by Heckel (1851) and the Neretva River catch report (Čurčić, 1938). Recently, it was also caught in the Hutovo Blato wetland (Bosnia and Herzegovina), a part of the Neretva River drainage (Glamuzina and Bartulović, 2006). This species is the object of a recreational fishery in Neretva River (in Croatia and Bosnia and Herzegovina); however, its biology, ecology and other relevant data, which are important for establishment of fishery management, are lacking (Tutman *et al*., 2008). The aim of this paper is to present new record size of *S. dentex* from the Neretva River (Bosnia and Herzegovina).

MATERIAL AND METHODS

A specimen of *S. dentex* was captured on February 25, 2008 by driftnet in Neretva River (about 5 km north of town Čapljina (Bosnia and Herzegovina) (Fig. 1). Biometric measurements and meris-

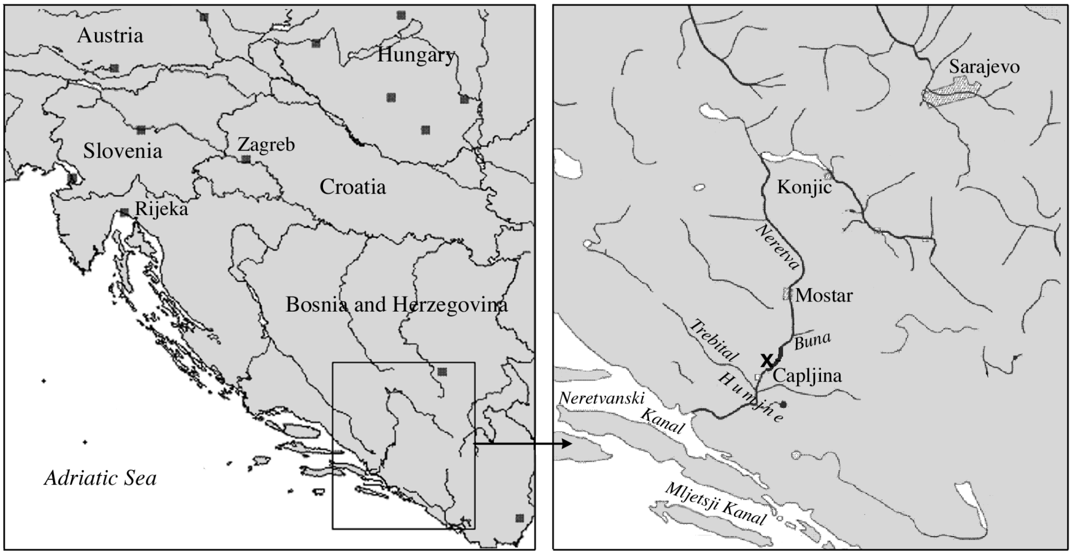

Figure 1. - Location of capture (X) – Neretva River (Bosnia and Herzegovina). *[Localisation de capture (X) – rivière Neretva, Bosnie-Herzegovine.]*

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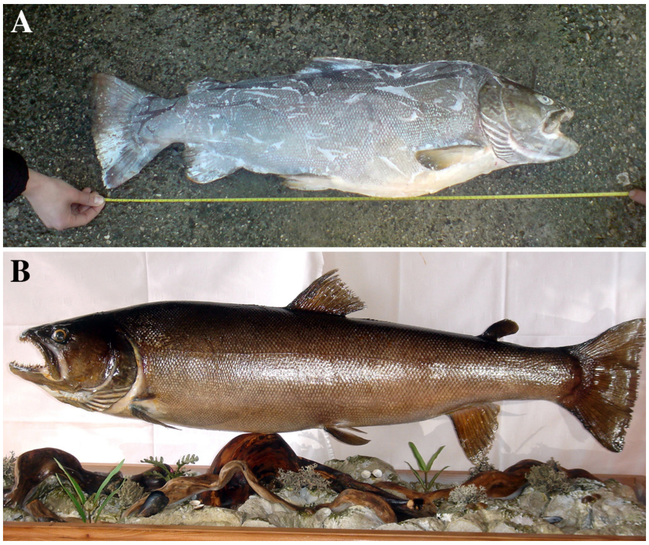

Figure 2. - **A**: Fresh specimen of *Salmo dentex* (TL = 984 mm); **B**: Dry-mounted specimen. *[**A** : Spécimen frais ; **B** : Spécimen sec préparé.]*

tic characteristics were taken into account. The specimen was subsequently measured to the nearest mm and weighed to the nearest g. Sex and condition of gonads were determined. Measurements were taken from the fresh specimen (Fig. 2A). Subsequently the specimen was prepared (drymounted) and exhibited for public viewing in the facilities of "Hutovo blato" Nature Park (Bosnia and Herzegovina) (Fig. 2B). According to Kottelat and Freyhof (2007) three sympatric salmonid species exist in the Neretva basin: *Salmo obtusirostris* (Heckel, 1851), *S. farioides*, and *S. dentex*. On the basis of external appearance, *S. dentex* was found to be distinguished from *S. obtusirostris* by its dentition (its jaw teeth are distinct and strong *versus* small or indistinct in *S. obtusirostris*), while in comparison to *S. farioides*, the distinction was established by interorbital distance, which is smaller in *S. dente*x.

RESULTS AND DISCUSSION

Specimen's head and body are covered with small dark dots, especially in the upper region. Dark red spots of different sizes are distributed along the entire lank, and are circled by bright pale rim. Such description is in agreement with that of Kottelat and Freyhof (2007) and Delling (2003). Main biometric measurements and meristic characteristics are presented in table I. Recorded size of 984 mm TL (922 mm SL) is the maximum recorded size for this species (weight W = 11210 g). All measurements are in agreement with Delling (2003) and Kottelat and Freyhof (2007) data. In previous surveys, the total length of specimens from Hutovo blato wetland ranged from 217 to 582 mm (with maximum weight of 2360 g) (Glamuzina and Bartulović, 2006). Kottelat and Freyhof (2007) reported maximum size of up to, at least 620 mm SL. Delling (2003) examined 13 specimens ranging from 110.6 to 348.0 mm, indicating narrow interorbital distance (20-25% of head length), long predorsal length (47-50% of SL) and long preanal length (77-80% of SL). Same author presented a list of lectotype and paralectotypes with a maximum noted SL of 575 mm. Similar results were obtained in our study (Tab. I). The fish was a female with spent gonads. Maximum length and weight are very important theoretical parameters for fisheries science. Borges (2001) stated that directly and indirectly, these measurements enter into most of the models used in stock assessments. In this sense, updating the maximum size of a species that might be commercially exploited in the future gains importance.

Table I. - Morphometric measurements (in mm) and meristic parameters of *Salmo dentex* specimen caught in Neretva River, Bosnia and Herzegovina. *[Mesures morphométriques (mm) et méristiques du* S. dentex *capturé dans la Neretva, Bosnie-Herzegovine.]*

Total length (TL)	984	
Standard length (SL)	922	
Preanal length	712	77.2% SL
Prepelvic length	511	55.4% SL
Predorsal length	450	48.8% SL
Prepectoral length	217	23.5% SL
Head length (HL)	224	24.3% SL
Caudal fin length	86	
Caudal peduncle depth	31	
Caudal fin upper lobe length	102	
Caudal fin lower lobe length	101	
Caudal fin central ray length	69	
Dorsal fin length	98	
Pectoral fin length	107	
Pelvic fin length	84	
Adipose fin length	61	
Body width	105	
Eye diameter	25	11.2% HL
Head depth	99	
Interorbital width	56	26.3% HL
Max. body height	227	
Min. body height	86	
Meristic characters		
D	12	
A	10	
P	12	
V	9	
C	34-36	
L. late.	142	
Dentes sup.	39	
Dentes inf.	18	

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